Estimate for Work of Providing & Laying of sanitary pipeline 230 mm dia Glazed Stone ware and 300 mm dia RCC pipe line at Kurlappa layout near, Kogilu Road (Ward No:1) Yelahanka CMC area.

Sl No	Description of Work	Unit	No	L	B	D	Qty	Rate	Amount
1	Conducting the Level and Strip Survey of alignment of Main Sewers of diameter greater than 300 mm, including all data required for generating GIS maps of sewer network as detailed in section VI ,Works requirements , preparation and submission of plan & LS with Ground level at 30m interval and junction points along the centre line of the alignment etc., showing the Right of way, any permanent features, culverts, branch sewer pipe complete as per specifications and as directed by the Engineer in charge with all lead and lifts etc., complete. (BWSSB SR 16-17 SL No:95 (b) page No: 90)								
		Rmt	1	1,000			1,000.00	4.00	4000.00
2	Cutting Road Surface for Pipe line trenches and disposing off the excavated stuff as directed including barricading, danger lighting etc., in the following classification as directed by the Engineer in charge with all lead and lifts etc.,complete								
2a	Cutting asphalt road (BWSSB SR 16-17 SL No:4 (2) page No: 9)								
	MH13 - MH14	Cum	1	42	0.75	0.05	1.57		
	MH14 - MH16		1	27	0.75	0.05	1.01		
	MH16 - MH17		1	31	0.75	0.05	1.16		
	MH17 - MH18		1	31	0.75	0.05	1.16		
	MH18 - MH19		1	30	0.75	0.05	1.12		
	MH14 - MH15		1	46	0.75	0.05	1.72		
	MH deduction		6	2.18	0.75	0.05	0.49		
							7.27	459.20	3,338.38
2b	Cutting macadam road (BWSSB SR 16-17 SL No:4 (1) page No: 9)								
	MH1 - MH2	Cum	1	30	0.75	0.15	3.37		
	MH2 - MH3		1	20	0.75	0.15	2.25		
	MH3 - MH4		1	25	0.75	0.15	2.81		
	MH4 - MH5		1	23	0.75	0.15	2.58		
	MH5 - MH9		1	35	0.75	0.15	3.93		
	MH9 - MH10		1	30	0.75	0.15	3.37		
	MH10 - MH11		1	30	0.75	0.15	3.37		
	MH11 - MH12		1	37	0.75	0.15	4.16		
	MH12 - MH13		1	12	0.75	0.15	1.35		
	MH19 - MH20		1	35	0.80	0.15	4.20		
	MH20 - MH21		1	24	0.80	0.15	2.88		
	MH21 - MH22		1	30	0.80	0.15	3.60		
	MH22 - MH23		1	30	0.80	0.15	3.60		
	MH23 - MH24		1	15	0.80	0.15	1.80		
	MH24 - MH25		1	30	0.80	0.15	3.60		
	MH25 - MH26		1	43	0.80	0.15	5.16		
	MH26 - MH27		1	30	0.80	0.15	3.60		
	MH27 - MH28		1	25	0.80	0.15	3.00		
	MH28 - MH29		1	34	0.80	0.15	4.08		
	MH5 - MH6		1	30	0.75	0.15	3.37		
	MH6 - MH7		1	30	0.75	0.15	3.37		
	MH7 - MH8		1	37	0.75	0.15	4.16		
	MH8 - MH12		1	36	0.75	0.15	4.05		
	MH deduction		23	2.18	0.75	0.15	5.79		
							71.92	250.88	18,043.29

Sl No	Description of Work	Unit	No	L	B	D	Qty	Rate	Amou
3	Earth work excavation for pipeline trenches and manhole chambers including depositing on bank upto a lead of 30 metres including danger lighting and using sight rails and boning rods including shoring, strutting, bailing out water at every 100 metres wherever necessary as directed in the following strata with all lifts etc., complete. -do-in all soils mixed with boulders of 30cms. size upto and exclusive of disintegrated rock. Upto 2 m depth. (BWSSB SR 16-17 SL No:1 i a page No: 6)								
3a	a) Upto 2 m depth.	Cum							
	i)230 mm dia GSW PIPE								
	MH1 - MH2		1	30	0.75	0.95	21.37		
	MH2 - MH3		1	20	0.75	1.30	19.50		
	MH3 - MH4		1	25	0.75	1.65	30.93		
	MH4 - MH5		1	23	0.75	1.75	30.18		
	MH5 - MH9		1	35	0.75	1.70	44.62		
	MH9 - MH10		1	30	0.75	1.65	37.12		
	MH10 - MH11		1	30	0.75	1.55	34.87		
	MH11 - MH12		1	37	0.75	1.63	45.23		
	MH12 - MH13		1	12	0.75	1.73	15.57		
	MH13 - MH14		1	42	0.75	1.73	54.50		
	MH14 - MH15		1	46	0.75	1.30	44.85		
	MH14 - MH16		1	27	0.75	1.63	32.90		
	MH16 - MH17		1	31	0.75	1.55	36.03		
	MH17 - MH18		1	31	0.75	1.43	33.24		
	MH18 - MH19		1	30	0.75	1.70	38.25		
	MH5 - MH6		1	30	0.75	1.65	37.12		
	MH6 - MH7		1	30	0.75	1.55	34.87		
	MH7 - MH8		1	37	0.75	1.50	41.62		
	MH8 - MH12		1	36	0.75	1.63	44.01		
	b)300 mm dia RCC PIPE								
	MH19 - MH20		1	35	0.80	2.00	56.00		
	MH20 - MH21		1	24	0.80	2.00	38.40		
	MH21 - MH22		1	30	0.80	2.00	48.00		
	MH22 - MH23		1	30	0.80	2.00	48.00		
	MH23 - MH24		1	15	0.80	2.00	24.00		
	MH24 - MH25		1	30	0.80	2.00	48.00		
	MH25 - MH26		1	43	0.80	2.00	68.80		
	MH26 - MH27		1	30	0.80	2.00	48.00		
	MH27 - MH28		1	25	0.80	2.00	40.00		
	MH28 - EXMH29		1	34	0.80	2.00	54.40		
	Total						1,150.48		
	MH deduction		29	2.18	0.76	1.76	81.68		
	Deduction of Dsintigrated Rock						147.54		
	Deduction of Hard Rock						49.18		
	Net Qty	Cum					**872.08**	**155.68**	**135765.00**
3b	Above 2m - upto 4 m depth. (BWSSB SR 16-17 SL No:1 i b page No: 6)								
	300 mm dia RCC PIPE	Cum							
	MH19 - MH20		1	35	0.80	0.30	8.40		
	MH20 - MH21		1	24	0.80	0.65	12.48		
	MH21 - MH22		1	30	0.80	0.98	23.52		
	MH22 - MH23		1	30	0.80	1.25	30.00		

No	Description of Work	Unit	No	L	B	D	Qty	Rate	Amount
	MH23 - MH24		1	15	0.80	0.88	10.56		
	MH24 - MH25		1	30	0.80	0.75	18.00		
	MH25 - MH26		1	43	0.80	1.08	37.15		
	MH26 - MH27		1	30	0.80	1.15	27.60		
	MH27 - MH28		1	25	0.80	0.88	17.60		
	MH28 - EXMH29		1	34	0.80	0.65	17.68		
	Total	Cum					202.99		
	MH deduction		10	2.18	0.80	0.85	14.82		
	Deduction of Disintigrated Rock						37.63		
	Deduction of Hard Rock						9.40		
	Net Qty	Cum					**141.14**	**206.08**	**29086.00**
4	do- in disintegrated rock, soft rock, soft shale and medium hard rock comprising of Lime stone, sand stone, hard shale, schiest fissured rock without resorting to blasting upto 2m depth (BWSSB SR 16-17 SL No:1 ii page No: 6)								
4a	Upto 2 m depth. (15 % of EW)(15% of 983.61)	Cum					**147.54**	**366.24**	**54035.00**
4b	above 2m - upto 4 m depth (20 % of EW)(20% of 188.17)	Cum					**37.63**	**408.80**	**15383.00**
5	do- in hard rock by chistelling Upto 2 m depth. (BWSSB SR 16-17 SL No:1 v) a,b,c page No: 7)								
5a	Upto 2 m depth. (5 % of EW) (5% of 983.61)	Cum					**49.18**	**1,469.44**	**72267.00**
5b	above 2m - upto 4 m depth (5 % of EW)(5% of 188.17)	Cum					**9.40**	**1,576.96**	**14823.00**
6	Providing erecting and removing casurinapole three tier Barricading using poles of 7.50 to 10 cms. Dia. and 1.50m height above ground fixed vertically at intervals of 2.0 to 2.5 mtrs. C/C and horizontally at 0.50 mtrs, above ground level, including fixing poles in the ground for a minimum depth of 0.30 mtr. and tied with coir rope firmly including cost and conveyance of all materials, labour, lead and lift charges etc complete. BWSSB SR 16-17 (page 90 sl no: 94)								
		m		880			**880.00**	**52.00**	**45760.00**
7	Carting of excavated Earth of all types upto a distance mentioned below and re-carting back the earth to the same site by vehicle including loading , unloading charges for to & fro, with all lifts, labour, HOM of machinery etc. complete Above 4KM Upto 5KM BWSSB SR 16-17 (page 9 sl no: 6)								
		Cum		100	0.80	2.00	**160.00**	**328.16**	**52506.00**
8	Disposing off the excess excavated Earth of all types upto a distance mentioned below by vehicle including loading , unloading, with all lifts, labour, HOM of machinery etc. complete Above 4KM Upto 5KM BWSSB SR 16-17 (page 10 sl no: 7)								
		Cum		/			-	**164.64**	**0.00**
9	Providing Course Sand Bedding for the pipeline trenches including watering and consolidation by punners etc., complete with all lead & lifts etc. complete BWSSB SR 16-17 (page 9 sl no: 5)								
		Cum		60	0.75	0.15	**6.75**	**1,043.72**	**7045.00**

Sl No	Description of Work	Unit	No	L	B	D	Qty	Rate	Amou
10	Providing and laying in position plain cement concrete of mix 1:2:4 (M15) using 40mm and down siz graded granite metal machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, including cost of all materials, labour, HOM of machinery, curing complete as per specifications, including cost and conveyance of all materials, labour with all lead and lifts, etc., complete as per specification and as directed by the Engineer in charge. Specification No. KBS 4.1. - For craddle bedding & Encasement Bedding. PWD SR 16-17 (Page 161 sl no: 4.1)	Cum	1	261	0.80	0.15	31.32	5,213.00	163271.00
11	Refilling of available earth around pipelines & manhole chambers, in layers not exceeding 20 cms in depth, compacting each deposited layer by ramming after watering with all lead and lifts including cost of all labour including consolidation by mechanical means when earth is at suitable moisture content with desired field density upto 95% maximum dry density (modified heavy proctor test) as approved by Engineer in charge, for restoration of roads without settlement including HOM of machineries, complete. (The contractor shalll take care while consoldating the earth, so that, pipes laid are not damaged due to mechanical compaction and shall restore the damaged pipes at his own cost, in case of damage. (BWSSB SR 16-17 SL No:2 page No: 9)								
	Total EW + Road Cutting	Cum					1,213.58	69.44	84271.00
12	Supplying lowering laying, jointing, testing and commissioning of following diameters glazed stone ware pipes, conforming to IS 651:1992, (with 5th revision) in all respects jointing with EPDM rubber rings (seals according to EN 681 & ASPM 425) The rubber seals joints pipe will have groves in interior of socket and exterior of the spigot. The rubber gasket shall be prefixed at the factory by the manufacturer rigidly with approved glue to have leak proof joint including conveying of pipe to work site and rolling and lowering into trenches, laying true to line, level and perfect linking at joints testing and commissoning including loading and unloading at both destinations and cuts of pipes wherever necessary including jointing of GSW pipes and specials, with rubber gaskets conforming to EN 681 and ASTM C-425 including cleaning the socket and spygot with soap solution and applyign talcum powder for detecting crack, then applying glue and before inserting of rubber gaskets, jacking and fixing in perfect condition including the cost of soap solution, talcum powder and glue etc. and giving necessary hydraulic test to the required pressureofwater head with all lead and lifts including costing of jointing materials and all necessary survey works for laying of sewers etc., and disposal of debris as directed etc., complete. (Contractor will make his own arrangements for procuring for testing) (GSW (BWSSB SR 16-17 SL No:3 page No: 72)								
	230 mm dia GSW Pipe(582-MH22.80)	Rmt		559			559.20	532.26	297640.00
13	Supplying & laying of following diameters S&S RCC SPUN PIPES / VIBRATED CAST PIPES (REINFORCED) of NP-3 class conforming to IS 458:1988 with latest amendments, manufactured using Sulphate resistant cement, and conveying to worksite, rolling and lowering into trenches, laying true to line and level including loading and unloading at both destinations and jointing of pipes & specials including cost of specials, including perfect linking of joints with jack to correct position including cost of jointing materials ie., rubber rings confirming to IS : 5382 for S&S RCC pipes with all lead and lifts as directed and giving necessary hydraulic test as per ISS and testing & commissioning etc., complete. (Contractor will make his own arrangements for procuring water for testing) Before execution of the work, Contractor shall carry out the survey and will be paid extraas per the saperate Item (BWSSB SR 16-17 SL No:4 page No: 73)								
	300 mm dia RCC pipe(296-MH10.8)	Rmt		285			285.20	1,533.55	437368.00

No	Description of Work	Unit	No	L	B	D	Qty	Rate	Amount
14	Providing and constructing "wire cut brick manhole chambers" using sulphate resistant cement, conical in shape at top with C.C. 1:3:6 foundation using 40 mm and down size graded metal of approved quality and with an offset of 0.15 m alround the chamber and brick masonry in C.M. 1:4 plaster with wire cut bricks of approved quality and CM plaster 1:3 proportion 12 mm thick inside and outside except for the conical surface outside where the thickness of plaster shall be 20 mm thick, with 1:6 slope in the concrete towards the central drain, finished smooth and fixing of pipes in CC 1:2:4 graded metal of 20 mm and down size including conveying to work spot supplying & fixing SFRC manhole frame and cover confirming to IS:12592 with latest amendments in CC 1:2:4, supplying and fixing of minimum 3 mm thick encapsulated plastic footsteps (as per IS 10910) on 12 mm dia, Grade Fe-415 steel bar (as per IS 1786) staggered at 30 cms apart as detailed in Technical Specifications and as directed, watering, curring, barricading, danger lighting, pouring tar over MH frame and cover, cost of tar, shoring, strutting, dewatering, engraving manhole No.with flow direction on the inner conical surface etc., as per the drawing with wire cut bricks as per technical specifications for the following diameters & depths including earth work excavation in all types of soils Note 1 Rate of the manhole is inclusive of cost of SFRC manhole frame and cover									
i	1.2 m diameter manholes								
14.i	0.8 m depth	Nos					1.00	12,407.96	12,407.96
14.i.a	a)For 1.00 m	Nos					17.00	15,509.95	263,669.15
14.i.b	b)Above 1m to Below 2m Depth	Mtr					9.40	11,494.90	108,052.06
14.ii.a	a)For 2.00 m	Nos					5.00	27,004.85	135,024.25
14.ii.b	b)Above 2m to Below 3m Depth	Mtr					2.40	14,536.95	34,888.68
	1.5 m diameter manholes								
14.iii.a	a)For 3.00 m	Nos					5.00	51,370.06	256,850.30
14.iii.b	b)Above 3m to Below 4m Depth	Mtr					1.20	20,768.61	24,922.33
15	Removing B.S. slab of Drain and stacking with all lead and lifts as directed by the Engineer in charge. PWD SR 16-17 (page 173 sl no: 5.32)								
		Sqm	25	1.50	0.90		33.00	62.00	2046.00
16	Refixing stone slabs of drains and pointing in C.M. (1:3) with all lead and lifts complete and as directed by the Engineer in charge PWD SR 16-17 (page 173 sl no: 5.33)								
		Sqm	25	1.50	0.90		33.00	76.00	2508.00
17	KSRRB M200-24 Dismantling of cement concrete pavements by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials stacking serviceable and unserviceable materials seperately completeas per specifications. MORTH Specification No. 202 PWD SR 16-17 (page 267 sl no: 18.47)								
							40.00	781.00	31240.00

Sl No	Description of Work	Unit	No	L	B	D	Qty	Rate	Amount
18	Providing and laying in position reinforced cement concrete of design mix M25 with OPC cement @ 340kgs, with 20mm & down size graded granite metal coarse aggregates @0.70cum & fine aggregates @ 0.47cum, with superplastiser @ 3 liters confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation for footings, pedastals, retaining walls, return walls, walls (any thickness) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, bed blocks, anchor blocks, plinths etc., including cost of all materials, labour, HOM machinery, curing, complete but excluding cost of reinforcement as per specifications No.KBS 4.1, 4.6 PWD SR 16-17(page 162 sl no: 4.1)								
		Cum					40.00	6,221.00	248840.00
19	Dismantling size stone masonry in lime mortar/cement mortar and stacking the size stone and removing and disposing the debris with all lead & lifts etc complete including cost of all equipments and labour etc., complete as per specifications and as directed by the Engineer in charge PWD SR 16-17 (Page 370 sl no: 37.48)								
		Cum		36.00	0.60	1.00	21.60	172.00	3715.00
20	Providing and constructing granite / trap / basalt size stone masonry in foundation with cement mortar 1:6 stone hammer dressed in courses not less than 20 cms high, bond stones at two meters apart in each course including cost of materials, labour, curing with all lead and lifts, etc., complete as per specification and as directed by the Engineer in charge. -For Drain walls. Specification No. KBS 5.1.13 PWD SR 16-17 (Page 171 sl no: 5.6)								
		Cum		36.00	0.60	1.00	21.60	4,187.00	90439.00
							Total Amount		2,649,203.00

ABSTRACT						
1	*Material & labour*	Rs.				2,649,203.00
2	*Tender percentage 15%*	Rs.				397,380.00
3	*ETP charges 5%*	Rs.				153,579.00
4	*Advertisement Charges*	Rs.				25,000.00
5	*3rd party 0.6%+18% GST*	LS				22,834.00
6	*Misc Round off*					2,004.00
Grand Total Rs.-						3,250,000.00

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ನಂ.2ನೇ ಉಪವಿಭಾಗ,ನೀರು ಮತ್ತು
ಒಳಚರಂಡಿ ಮಂಡಳಿ,ಯಲಹಂಕ,
ಬೆಂಗಳೂರು.

AEEN-2

Executive Engineer,
Water Supply & Sanitary (North) Division,
BWSSB, Yelahanka Newtown,
Bangalore-560064.

Administrative Approval
Accorded For 32:5 Malleshwaram
Head of A/C P05A1
CER NO :...186... Dt:02/03/2019

TA

CE (YNK)

Technical Sanction
Accorded For 32:5 Malleshwaram
Head of A/C P05A1
CER NO :...478... Dt:02/03/2019

TA

CE (YNK)